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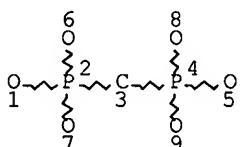
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FILE LAST UPDATED: 3 Jan 2008 (20080103/ED)

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L1 STR



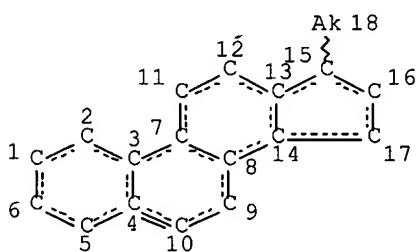
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GRAPH ATTRIBUTES:

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NUMBER OF NODES IS 9

STEREO ATTRIBUTES: NONE
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NODE ATTRIBUTES:

CONNECT IS M3 RC AT 6
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GRAPH ATTRIBUTES:

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STEREO ATTRIBUTES: NONE

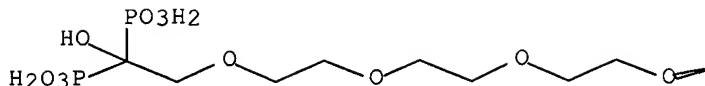
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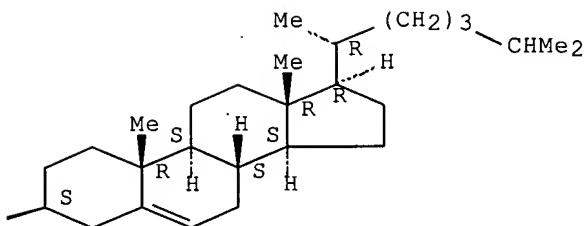
L5 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2007:154640 CAPLUS Full-text
 DOCUMENT NUMBER: 146:428048
 TITLE: Bone targeting potential of bisphosphonate-targeted liposomes
 AUTHOR(S): Hengst, V.; Oussoren, C.; Kissel, T.; Storm, G.
 CORPORATE SOURCE: Department of Pharmaceutics, Utrecht Institute for Pharmaceutical Sciences (UIPS), University of Utrecht, 80082, Neth.
 SOURCE: International Journal of Pharmaceutics (2007), 331(2), 224-227
 CODEN: IJPHDE; ISSN: 0378-5173
 PUBLISHER: Elsevier Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB . The main constituent of bone is hydroxyapatite (HAP). Since HAP is only present in 'hard' tissues like bone and teeth, it represents a promising target for the selective drug delivery to bone. Due to the exceptional affinity of bisphosphonates (BP) for HAP, cholestryl-trisoxyethylene-bisphosphonic acid (CHOL-TOE-BP), a new tailor-made BP derivative, was used as bone targeting moiety for liposomes. CHOL-TOE-BP-targeted liposomes were designed for the treatment of bone-related diseases to achieve prolonged local exposure to high concns. of the bioactive compds., thereby enhancing therapeutic efficacy and minimizing systemic side effects. The CHOL-TOE-BP-targeted liposomes were characterized regarding particle size and zeta potential. To study the bone targeting potential of these conjugates, an in vitro HAP binding assay was established. The obtained binding data indicate that CHOL-TOE-BP is useful as targeting device for liposomal drug delivery to bone.
 IT 861395-84-8
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
 (bisphosphonate-targeted liposomes bone targeting potential)
 RN 861395-84-8 CAPLUS
 CN Phosphonic acid, [2-[2-[2-[2-[(3 β)-cholest-5-en-3-yloxy]ethoxy]ethoxy]-1-hydroxyethylidene]bis- (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2005:696929 CAPLUS Full-text
 DOCUMENT NUMBER: 143:194146
 TITLE: Preparation of bisphosphonic acid lipid derivatives
 INVENTOR(S): Greb, Wolfgang; Shyhskov, Oleg; Roeschenthaler, Gerd-Volker; Hengst, Verena
 PATENT ASSIGNEE(S): MCS Micro Carrier Systems G.m.b.H., Germany
 SOURCE: PCT Int. Appl., 28 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005070952	A1	20050804	WO 2005-DE95	20050124
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 102004032781	A1	20050811	DE 2004-102004032781	20040706
EP 1706415	A1	20061004	EP 2005-714898	20050124

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS

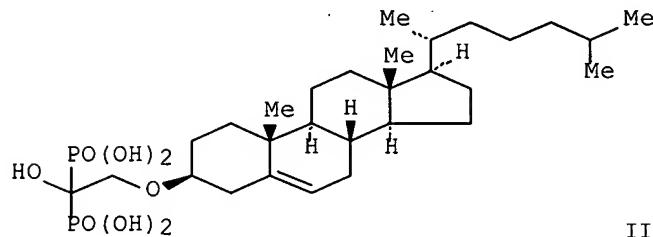
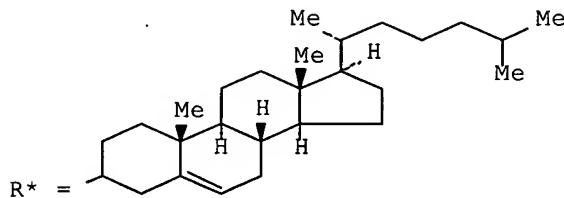
JP 2007518746 T 20070712 JP 2006-549859 20050124

US 2007154537 A1 20070705 US 2006-597059 20060710

PRIORITY APPLN. INFO.: DE 2004-102004003781A 20040123
WO 2005-DE95 W 20050124

OTHER SOURCE(S): MARPAT 143:194146

GI



AB Disclosed is a bisphosphonic acid derivative, $R_1C(XR_2)[P(:O)(OH)2]_2$ [I; $R_1 = H, OH, C_1\text{-}6\text{-alkyl}, C_1\text{-}6\text{-alkoxy}, C_1\text{-}6\text{-hydroxyalkyl}, C_1\text{-}6\text{-aminoalkyl}, C_1\text{-}6\text{-haloalkyl}; X = \text{bond}, C_1\text{-}20\text{-alkylene}, (CH_3)_m(OCR_3HCH_2)_n(O)_o, (CR_4HCH_2O)_p; (CH_3)_q(OCR_5HCH_2)_r(O)_s(CH_3)_t; R_3 = H, Me; m = 0, 1 - 6; n = 1 - 10, especially 1 - 6; o = 0, 1; R_4 = H, CH_3; p = 1 to 10, particularly 1 to 6; R_5 = H, CH_3; q = 0, 1 to 6; r = 1 to 10, especially 1 to 6; s = 0 or 1; t = 1 to 6; R_2 = R^*, C_8\text{-}22\text{-fatty alkyl radical, fatty acid radical}], their physiol. acceptable salts and their trimethylsilyl derivs. Thus, cholesteryl-3-hydroxybisphosphonic acid II was prepared from cholesterol, via O-alkylation with $BrcH_2CO_2Li$ and reaction with $P(OSiMe_3)_3$. The inventive compound can be used for producing liposomal prepns. as well as medicaments utilized for the treatment of animals and humans (no data).$

IT 861395-80-4P 861395-83-7P 861395-84-8P

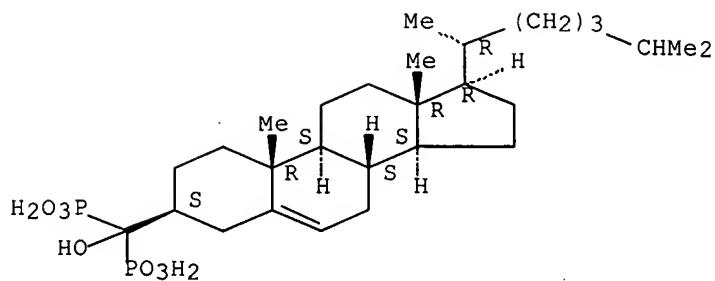
861395-85-9P

RL: DGN (Diagnostic use); MOA (Modifier or additive use); SPN (Synthetic preparation); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses) (preparation of bisphosphonic acids for liposomal formulations)

RN 861395-80-4 CAPLUS

CN Phosphonic acid, [(3 β)-cholest-5-en-3-ylhydroxymethylene]bis- (9CI)
(CA INDEX NAME)

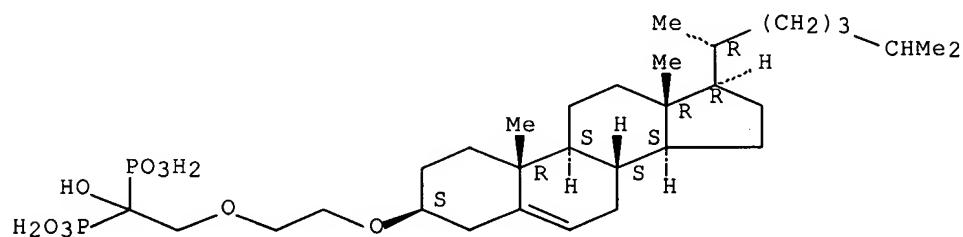
Absolute stereochemistry.



RN 861395-83-7 CAPLUS

CN Phosphonic acid, [2-[2-[(3 β)-cholest-5-en-3-yloxy]ethoxy]-1-hydroxyethylidene]bis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

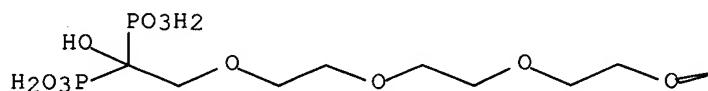


RN 861395-84-8 CAPLUS

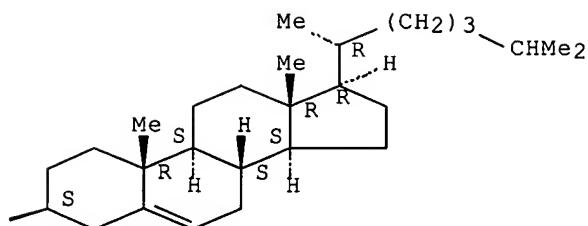
CN Phosphonic acid, [2-[2-[2-[2-[(3 β)-cholest-5-en-3-yloxy]ethoxy]ethoxy]-1-hydroxyethylidene]bis- (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



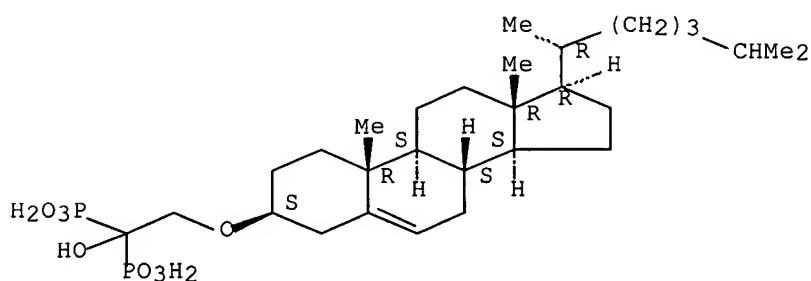
PAGE 1-B



RN 861395-85-9 CAPLUS

CN Phosphonic acid, [2-[(3β) -cholest-5-en-3-yloxy]-1-hydroxyethylidene]bis- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:320383 CAPLUS Full-text

DOCUMENT NUMBER: 135:77015

TITLE: Novel Synthesis of Bis(phosphonic acid)-Steroid Conjugates

AUTHOR(S): Page, Philip C. B.; McKenzie, Michael J.; Gallagher, James A.

CORPORATE SOURCE: Department of Chemistry, Loughborough University, Loughborough Leicestershire, LE11 3TU, UK

SOURCE: Journal of Organic Chemistry (2001), 66(11), 3704-3708 CODEN: JOCEAH; ISSN: 0022-3263

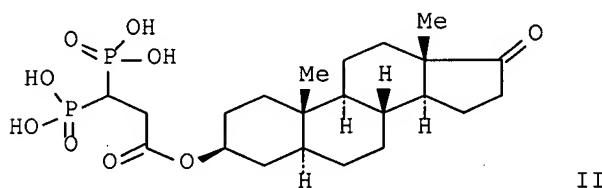
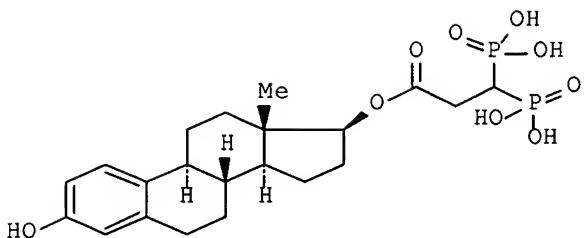
PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 135:77015

GI



AB An efficient synthesis has been realized for several members of a new class of potential bone resorption inhibitors, e.g. I and II, consisting of steroidal estrogenic units linked at the 3 and 17 positions to a geminal bisphosphonate moiety through an ester linkage of variable length. The convergent synthesis utilizes benzyl bisphosphonates, transesterification, and Meldrum's acid chemical and has the potential to allow many estrogenic derivs. as well as other biol. active compds. to be coupled to the geminal bisphosphonate moiety.

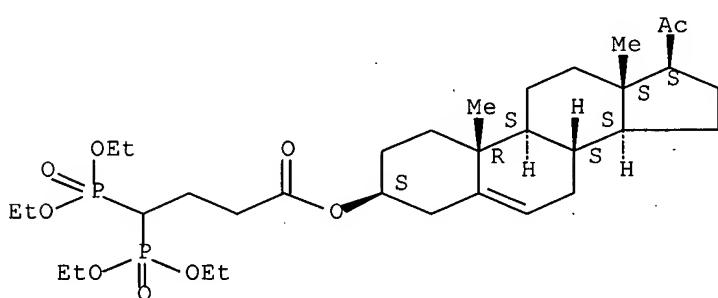
IT 346722-67-6P

RL: SPN (Synthetic preparation); PREP (Preparation)
(novel synthesis of bis(phosphonic acid)-steroid conjugates)

RN 346722-67-6 CAPLUS

CN Pregn-5-en-20-one, 3-[4,4-bis(diethoxyphosphinyl)-1-oxobutoxy]-, (3 β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT:

71 THERE ARE 71 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2008 ACS on STN

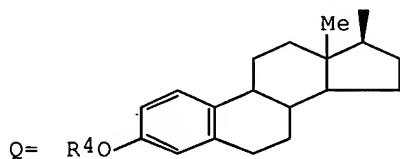
ACCESSION NUMBER: 1994:31024 CAPLUS Full-text

DOCUMENT NUMBER: . 120:31024

TITLE: Preparation of steroid-methylenebis(phosphonate) conjugates as bone resorption inhibitors

INVENTOR(S): Ueno, Hiroaki; Kadokawa, Syuchiro; Kamizono, Akihito;
 Morioka, Masahiko; Mori, Akihisa
 PATENT ASSIGNEE(S): Mitsubishi Kasei Corp., Japan
 SOURCE: Eur. Pat. Appl., 55 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 555845	A2	19930818	EP 1993-102143	19930211
EP 555845	A3	19960131		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
JP 05286993	A	19931102	JP 1993-21477	19930209
JP 2746041	B2	19980428		
CA 2089194	A1	19930815	CA 1993-2089194	19930210
CA 2089194	C	20030701		
US 5391776	A	19950221	US 1993-15800	19930210
PRIORITY APPLN. INFO.:			JP 1992-28497	A 19920214
OTHER SOURCE(S):	MARPAT	120:31024		
GI				



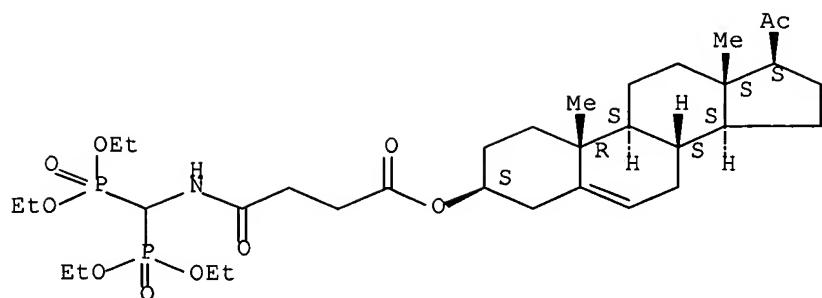
AB R₃OACH[P(O)(OR)₂]₂ [A = CO[NH(CHR₁)_yYpCO]mNH, COZ₁xZqONH, (CH₂)_kZ₂(CH₂)_l, CO(CH₂)_n; R = H, alkyl; R₁ = H, alkyl, aryl, etc.; R₃ = steroid residue; Y, Z = O or NH; Z₁ = (substituted) vinylene; Z₂ = (cyclo)alkylene, phenylene; l, m, k = 0-5; n = 0-10; p, q, x = 0 or 1; yr = 1-3] were prepared as bone resorption inhibitors. Thus, 17 β -hydroxy-3-methoxymethoxy-1,3,5-estratriene was condensed with N,N'-carbonyldiimidazole and the product condensed with H₂NCH₂CO₂Me to give, after saponification, R₃O₂CNHCH₂CO₂H (R₃ = estratrienyl group Q; R₄ = CH₂OMe) which was condensed with H₂NCH[P(O)(OEt)₂]₂ to give, after deprotection, R₃O₂C(NH)₉CH₂CONHCH[P(O)(OH)₂]₂ (R₃ = Q, R₄ = H) (I; q = 1). Similarly prepared I (q = 0) showed significant bone resorption inhibitory action (data given) in ovariectomized rats at 40 μ g/kg s.c./day for 28 days.

IT 151869-65-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of, in preparation of bone resorption inhibitor)

RN 151869-65-7 CAPLUS

CN Pregn-5-en-20-one, 3-[4-[[bis(diethoxyphosphinyl)methyl]amino]-1,4-dioxobutoxy]-, (3 β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



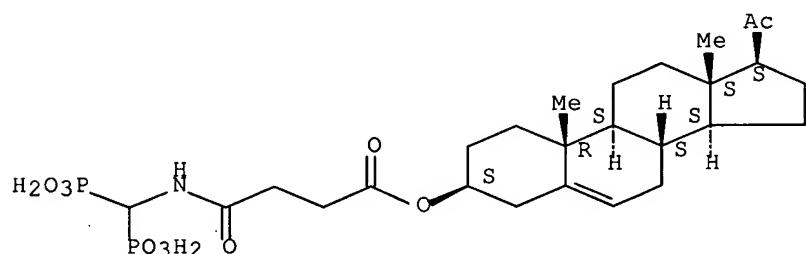
IT 151869-41-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as bone resorption inhibitor)

RN 151869-41-9 CAPLUS

CN Pregn-5-en-20-one, 3-[4-[(diphenylphosphoryl)amino]-1,4-dioxobutoxy]-,
(3 β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



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FILE CONTENT: 1961-PRESENT VOL 148 ISS 1 (20071228/ED)

SOME MARPAT RECORDS ARE DERIVED FROM INPI DATA FOR 1961-1987

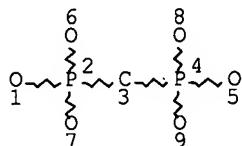
MOST RECENT CITATIONS FOR PATENTS FROM MAJOR ISSUING AGENCIES
(COVERAGE TO THESE DATES IS NOT COMPLETE):

US	2007270387	22 NOV 2007
DE	102006046922	15 NOV 2007
EP	1852435	07 NOV 2007
JP	2007299852	15 NOV 2007
WO	2007130704	15 NOV 2007
GB	2437429	24 OCT 2007
FR	2900926	16 NOV 2007
RU	2310676	20 NOV 2007
CA	2584745	13 OCT 2007

Expanded G-group definition display now available.

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L1 STR



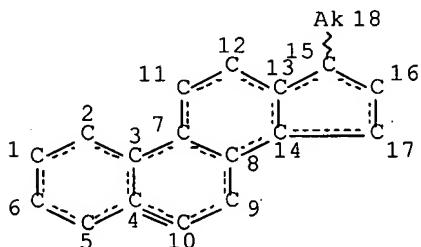
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NUMBER OF NODES IS 9

STEREO ATTRIBUTES: NONE
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NODE ATTRIBUTES:

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DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

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NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE

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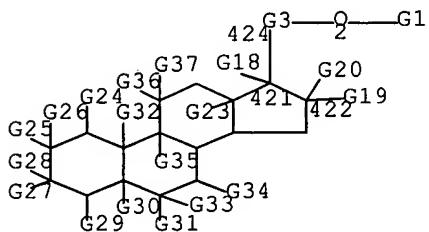
L11 ANSWER 1 OF 2 MARPAT COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 134:178396 MARPAT Full-text
 TITLE: Synthesis, activity and formulations of pharmaceutical
 compounds for treatment of oxidative stress and/or
 endothelial dysfunction
 INVENTOR(S): Del Soldato, Piero
 PATENT ASSIGNEE(S): Nicox S.A., Fr.
 SOURCE: PCT Int. Appl., 94 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001012584	A2	20010222	WO 2000-EP7225	20000727
WO 2001012584	A3	20020829		
W: AE, AL, AU, BA, BB, BG, BR, CA, CN, CR, CU, CZ, DM, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MA, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
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CA 2381409	A1	20010222	CA 2000-2381409	20000727
BR 2000013264	A	20020416	BR 2000-13264	20000727
EP 1252133	A2	20021030	EP 2000-953102	20000727
EP 1252133	B1	20050608		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
HU 2002003939	A2	20030328	HU 2002-3939	20000727
JP 2003515526	T	20030507	JP 2001-516885	20000727
CN 1433396	A	20030730	CN 2000-814049	20000727
NZ 516889	A	20041029	NZ 2000-516889	20000727
AU 781643	B2	20050602	AU 2000-65670	20000727
AT 297375	T	20050615	AT 2000-953102	20000727
EP 1593664	A1	20051109	EP 2005-104064	20000727
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RU 2264383	C2	20051120	RU 2002-103509	20000727
ES 2243292	T3	20051201	ES 2000-953102	20000727
NZ 535559	A	20051223	NZ 2000-535559	20000727
CN 1923797	A	20070307	CN 2006-10136231	20000727
ZA 2002000628	A	20030423	ZA 2002-628	20020123
US 7186753	B1	20070306	US 2002-48469	20020207
NO 2002000623	A	20020409	NO 2002-623	20020208
MX 2002PA01519	A	20020702	MX 2002-PA1519	20020211
AU 2005202824	A1	20050721	AU 2005-202824	20050628
IN 2006CN01908	A	20070608	IN 2006-CN1908	20060530
KR 760394	B1	20070919	KR 2006-724051	20061116
US 2007197499	A1	20070823	US 2006-642783	20061221
PRIORITY APPLN. INFO.:			IT 1999-MI1817	19990812
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			EP 2000-953102	20000727
			IN 2002-CN187	20000727
			WO 2000-EP7225	20000727

US 2002-48469 20020207
 KR 2002-701883 20020209

AB Compds. or their salts of general formula (I): A-B-N(O)s wherein: s is an integer equal to 1 or 2; A = R-T1-, wherein R is the drug radical and T1 = (CO)t or (X)t', wherein X = O, S, NR1c, R1c is H or a linear or branched alkyl or a free valence, t and t' are integers and equal to zero or 1, with the proviso that t = 1 when t' = 0; t = 0 when t' = 1; B = -TB -X2-O- wherein TB = (CO) when t = 0, TB = X when t' = 0, X being as above defined; X2, bivalent radical, is such that the precursor drug of A and the precursor of B meet resp. the pharmacol. tests described in the description. Synthesis, activity and formulations of pharmaceutical compds. for treatment of oxidative stress and/or endothelial dysfunction are disclosed. The precursors are such as to meet the pharmacol. test reported in the description.

MSTR 1B



G2 = 425-421 426-7

42504262

G3 = 6-421 9-2

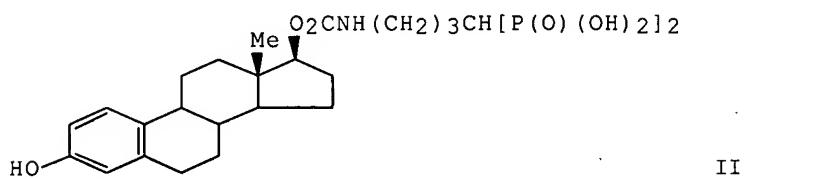
62—65—6(0)64

Patent location: claim 1
 Note: or salts
 Note: additional ring formation also claimed

L11 ANSWER 2 OF 2 MARPAT COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 117:212787 MARPAT Full-text
 TITLE: Preparation and formulation of
 [bis(phosphono)butylaminocarbonyloxy]estratriene and
 analogs for treatment of bone disease
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 PATENT ASSIGNEE(S): Merck and Co., Inc., USA
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EP 496520	A1	19920729	EP 1992-300291	19920114
R: CH, DE, FR, GB, IT, LI, NL				
CA 2059421	A1	19920723	CA 1992-2059421	19920115
JP 04352795	A	19921207	JP 1992-8786	19920122
JP 07035395	B	19950419		
US 5183815	A	19930202	US 1992-839741	19920219
PRIORITY APPLN. INFO.:			US 1991-644178	19910122
GI				

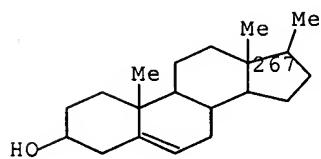


AB Compds. ABC [A = residue of a hydroxy-containing steroidal hormone having human bone resorption-antagonist activity or bone formation-stimulatory activity; C = residue of an amino- or hydroxyalkyl-1,1-bis(phosphonate) having human bone affinity; B = covalent linkage connecting A through the hydroxyl moiety and C through the amino or hydroxyl moiety, which linkage can hydrolyze in the human body in the vicinity of bone to release steroidal hormone A] were prepared for treatment of bone disorders (no data). Thus, [(Me₂CHO)₂P(O)]₂CHR (I; R = H), was condensed with CH₂:CHCN and the product hydrogenated to give I [R = (CH₂)₃NH₂], which was condensed with 3-benzyloxy-17beta-chlorocarbonyloxyestra-1,3,5(10)- triene (preparation given) to give, after deprotection, title compound II.

MSTR 1A

G1—G3—G2

G1 = 267

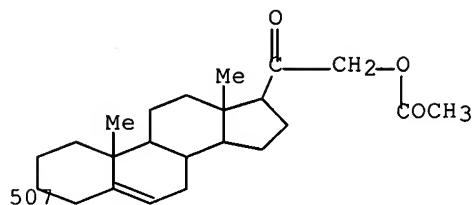


Derivative: and pharmaceutically acceptable salts or esters
 Patent location: claim 1

MSTR 1B

G1—G3—G2

G1 = 507



Derivative: and pharmaceutically acceptable salts or esters
 Patent location: claim 1

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(FILE 'HOME' ENTERED AT 16:20:02 ON 04 JAN 2008)

FILE 'REGISTRY' ENTERED AT 16:20:23 ON 04 JAN 2008

L1 STR
 L2 STR
 L3 1 SEA SSS SAM L1 AND L2
 D SCA
 L4 7 SEA SSS FUL L1 AND L2

FILE 'CAPLUS' ENTERED AT 16:22:18 ON 04 JAN 2008

L5 4 SEA ABB=ON PLU=ON L4

FILE 'MARPAT' ENTERED AT 16:22:53 ON 04 JAN 2008

L6 50 SEA SSS SAM L1
 L7 1173 SEA SSS FUL L1
 L8 1172 SEA ABB=ON PLU=ON L7/COM
 L9 0 SEA SUB=L7 SSS SAM L2
 L10 4 SEA SUB=L7 SSS FUL L2
 L11 2 SEA ABB=ON PLU=ON L10 NOT L5

FILE 'CAPLUS' ENTERED AT 16:25:21 ON 04 JAN 2008

D QUE L4

FILE 'CAPLUS' ENTERED AT 16:25:57 ON 04 JAN 2008

D QUE L5

D L5 IBIB ABS HITSTR TOT

10/597,059

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D QUE L11
D L11 IBIB ABS QHIT TOT